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ABSTRACT

This document, which is intended as a guide for work force preparation program providers, details the Illinois occupational skill standards for programs preparing students for employment in occupations in the imaging/pre-press cluster. The document begins with a brief overview of the Illinois perspective on occupational skill standards and credentialing, the process used to develop the skill standards, and assumptions underlying the standards. Presented next are skill standards for 26 tasks typically performed by workers in the imaging/pre-press cluster. Each skill standard statement contains the following components: (1) the actual skill standard (including the conditions of performance, work to be performed, and performance criteria); (2) performance elements and assessment criteria; and (3) a recommended assessment and credentialing approach. The following are among the tasks for which skill standards are provided: provide customer service/customer education; monitor production quality; perform file management; perform camera operations; maintain photographic equipment; assemble digital page elements; use output devices; provide technical services; and conduct technical and ongoing training. The following items are

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appended: glossary; lists of Illinois Occupational Skill Standards and Credentialing Council, Communications/Information Technology Subcouncil, and Imaging Pre-Press Cluster Skill Standards Development Committee members; Communications/Information Technology Subcouncil Imaging Pre-Press Cluster skill standards recognition proposal; and list of necessary workplace skills. (MN)

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ED 448 354

ILLINOIS

OCCUPATIONAL SKILL STANDARDS

IMAGING/ PRE-PRESS CLUSTER

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ILLINOIS OCCUPATIONAL SKILL STANDARDS
MECHANICAL DRAFTING CLUSTER

PROJECT STAFF

Transportation, Distribution and Logistics Subcouncil

Alexi Carli, Subcouncil Chair
Region Manager of Health and Safety
United Parcel Service
2600 Warrenville Road, Suite 210
Downers Grove, IL 60515

State Liaison

Ron Engstrom
Principal Consultant
Illinois State Board of Education

Product Developer for Mechanical Drafting Cluster

Pat Spicer, Ph.D.
Western Illinois University

AGENCY PARTNERS

Illinois State Board of Education
Illinois Community College Board
Illinois Board of Higher Education
Illinois Department of Commerce and Community Affairs
Illinois Department of Employment Security

ILLINOIS OCCUPATIONAL SKILL STANDARDS

IMAGING/PRE-PRESS CLUSTER

Endorsed for Illinois
by the
Illinois Occupational Skill Standards and
Credentialing Council

MESSAGE TO ILLINOIS CITIZENS

Dear Citizens of Illinois:

Preparing youth and adults to enter the workforce and to be able to contribute to society throughout their lives is critical to the economy of Illinois. Public and private interest in establishing national and state systems of industry-driven skill standards and credentials is growing in the United States, especially for occupations that require less than a four-year college degree. This interest stems from the understanding that the United States will increasingly compete internationally and the need to increase the skills and productivity of the front-line workforce. The major purpose of skill standards is to promote education and training investment and ensure that this education and training enables students and workers to meet industry standards that are benchmarked to our major international competitors.

The Illinois Occupational Skill Standards and Credentialing Council (IOSSCC) has been working with industry subcouncils, the Illinois State Board of Education and other partnering agencies to adopt, adapt and/or develop skill standards for high-demand occupations. Skill standards products are being developed for a myriad of industries, occupational clusters and occupations. This document represents the collaborative effort of the Communications /Information Technology Subcouncil, and the Imaging Pre-Press Operations Cluster Standards Development Committee.

These skill standards will serve as a guide to workforce preparation program providers in defining content for their programs and to employers to establish the skills and standards necessary for job acquisition. These standards will also serve as a mechanism for communication among education, business, industry and labor.

We encourage you to review these standards and share your comments. This effort has involved a great many people from business, industry and labor. Comments regarding their usefulness in curriculum and assessment design, as well as your needs for in-service and technical assistance in their implementation are critical to our efforts to move forward and improve the documents.

Questions concerning this document may be directed to:

Ron Engstrom, Illinois State Board of Education (rengstro@smtp.isbe.state.il.us)
Tricia Broughton, Illinois Community College Board (tbroughton@iccb.state.il.us)
Linda Lafferty, Illinois State Board of Education (llaffert@smtp.isbe.state.il.us)
Lyle Neumann, Illinois Department of Employment Security (lneuman@ides.state.il.us)
Mitch Daniels, Illinois Department of Employment Security (mdaniel@ides.state.il.us)

We look forward to your comments.

Sincerely,

The Members of the IOSSCC

THE ILLINOIS PERSPECTIVE

The Illinois Occupational Skill Standards and Credentialing Council (IOSSCC) endorses occupational skill standards and credentialing systems for occupations that (a) require basic workplace skills and technical training, (b) provide a large number of jobs with either moderate or high earnings, and (c) provide career advancement opportunities to related occupations with moderate or high earnings. The nine-member Council was established by the Occupational Skill Standards Act (PA 87-1210). The Council, representing business, industry and labor and working with the Illinois State Board of Education in partnership with the Illinois Community College Board, Illinois Board of Higher Education, Illinois Department of Employment Security and Illinois Department of Commerce and Community Affairs, has created a common vision for workforce development in Illinois.

Vision

It is the vision of the IOSSCC to develop a statewide system of industry-defined and recognized skill standards and credentials for all major skilled occupations providing strong employment and earnings opportunities in Illinois. Information related to occupational employment and earning opportunities is determined by the Illinois Occupational Information Coordinating Committee (IOICC) in cooperation with business and industry.

Subcouncils and Standards Development Committees

Under the direction of the Council, and in cooperation with organizations such as the Illinois Chamber of Commerce, the Illinois AFL-CIO, the Illinois Manufacturers' Association, and others, Industry Subcouncils have been formed to review, approve and promote occupational skill standards and credentialing systems. The Industry Subcouncils are Agriculture and Natural Resources; Applied Science and Engineering*; Business and Administrative Information Services; Communications/Information Technology; Construction*; Education and Training Services*; Energy and Utilities*; Financial Services; Health and Social Services; Hospitality; Legal and Protective Services*; Manufacturing; Marketing and Retail Trade; and Transportation, Distribution and Logistics. (*Subcouncils currently being formed.)

The Standards Development Committees, composed of business, labor and education representatives, are experts in the related occupational cluster and work with the product developer to

- Develop or validate occupational skill standards;
- Identify related academic skills;
- Develop or review assessment or credentialing approaches; and
- Recommend endorsement of the standards and credentialing system to the industry subcouncil.

Expected Benefits for Employers, Educators, Students and Workers

Occupational skill standards and credentialing systems are being developed and promoted by the IOSSCC to improve Illinois' competitiveness. Such standards and credentialing systems provide a common language for employers, workers, students and education and training providers to communicate skill requirements and quality expectations for all major industry and occupational areas.

For Employers, skill standards will

- Improve employee recruitment and retention by more clearly identifying skill requirements;
- Encourage improved responsiveness and performance of education and training providers;
- Enlarge the pool of skilled workers; and
- Focus attention on the importance of training investment.

For Education and Training Providers, skill standards will

- Provide information on all major industries and occupations;
- Contribute to program and curriculum development;
- Strengthen relationships between educators and training providers; and
- Improve career planning.

For Students and Workers, skill standards will

- Foster better decision making concerning careers and the training necessary to acquire well-paying jobs;
- Allow more effective communication with employers about what they know and can do; and
- Allow more effective work with employers in career development and skill upgrading.

IOSSCC Requirements for Occupational Skill Standards

Any occupational skill standards and credentialing system seeking IOSSCC endorsement must

- Represent an occupation or occupational cluster that meets the criteria for IOSSCC endorsement;
- Address both content and performance standards for critical work functions and activities for an occupation or occupational area;
- Ensure formal validation and endorsement by a representative group of employers and workers within an industry;
- Provide for review, modification and revalidation by an industry group a minimum of once every five years;
- Award credentials based on assessment approaches that are supported and endorsed by the industry and consistent with nationally recognized guidelines for validity and reliability;
- Provide widespread access and information to the general public in Illinois; and
- Include marketing and promotion by the industry in cooperation with the partner state agencies.

Definitions and Endorsement Criteria

The definitions and endorsement criteria are designed to promote the integration of existing and future industry-recognized standards, as well as the integration of the Illinois academic and occupational skill standards. Because all skill standards must address the critical work functions and activities for an occupation or industry/occupational area, the Council further defined three major components:

- ***Conditions of Performance:*** The information, tools, equipment and other resources provided to a person for work performance.
- ***Statement of Work:*** A description of the work to be performed by a person.
- ***Performance Criteria:*** The criteria used to determine the required level of performance. These criteria could include product characteristics (e.g., accuracy levels, appearance), process or procedural requirements (e.g., safety, standard professional procedures) and time and resource requirements.

The IOSSCC is currently working with the Illinois State Board of Education and other state agencies to integrate the occupational standards with the Illinois Learning Standards which describe what students should know and be able to do as a result of their education. The Council is also working to integrate workplace skills—problem solving, critical thinking, teamwork, etc.—with both the Learning Standards and the Occupational Skill Standards.

The Illinois Model

Illinois Occupational Skill Standards describe what people should know and be able to do and how well these skills and knowledge will be demonstrated in an occupational setting. They focus on the most critical work performances for an occupation or occupational area. As seen in the following model, Illinois Occupational Skill Standards contain at least these areas:

- Performance Area
- Performance Skill
- Skill Standard
- Performance Elements
- Performance Assessment Criteria

Illinois Occupational Skill Standards also carry a coding at the top of each page identifying the state, fiscal year in which standards were endorsed, subcouncil abbreviation, cluster abbreviation and standard number. For example, the twenty-fifth skill standard in the Imaging/Pre-Press Cluster, which has been developed by the Communication/Information Technology Subcouncil, would carry the following coding: IL.00.C/IT.I/PPC.25.

A model for Illinois Occupational Skill Standards showing the placement of the coding and providing a description of each area within a standard is contained on the following page.

SUMMARY OF WORK TO BE PERFORMED. SUMMARY IS BRIEF AND BEGINS WITH AN ACTION VERB.

IL.FY.SUBCOUNCIL. CLUSTER. STANDARD NO.

PERFORMANCE AREA

SKILL STANDARD

CONDITIONS OF PERFORMANCE

A comprehensive listing of the information, tools, equipment and other resources provided to the person(s) performing the work.

WORK TO BE PERFORMED

An overview of the work to be performed in demonstrating the performance skill standard. This overview should address the major components of the performance. The detailed elements or steps of the performance are listed under "Performance Elements."

PERFORMANCE CRITERIA

The assessment criteria used to evaluate whether the performance meets the standard. Performance criteria specify product/outcome characteristics (e.g., accuracy levels, appearance, results, etc.) and process or procedure requirements (e.g., safety requirements, time requirements, etc.).

PERFORMANCE ELEMENTS

Description of the major elements or steps of the overall performance and any special assessment criteria associated with each element.

PERFORMANCE ASSESSMENT CRITERIA

Listing of required testing, certification and/or licensing.

Product and process used to evaluate the performance of the standard.

PRODUCT

Description of the product resulting from the performance of the skill standard.

PROCESS

Listing of steps from the Performance Elements which must be performed or the required order or performance for meeting the standard.

DEVELOPMENTAL PROCESS

After reviewing the current labor market information, the Communications/Information Technology Subcouncil recommended the development of skill standards for Graphic Communication Technologists. The identified career clusters in Graphic Communication Technology meet the criteria established by the Illinois Occupational Skill Standards Credentialing Council (IOSSCC) for performance skill standard development, education and training requirements, employment opportunities, earnings potential and/or career opportunities. A product developer knowledgeable with graphic communication occupations began the process of performance skill identification. The product developer prepared an outline and framework designed to address the major skills expected in the workplace. The framework addresses skill requirements common to imaging, press, and finishing/distribution units in the printing industry.

Job descriptions from the printing industry and lists of competencies addressed in related educational programs were solicited and received. National Printing Skill & Knowledge Standards Project standards for printing technologists were consulted. Common and accepted references provided reinforcement for the direction given in the framework. Those references included current texts used by educational institutions and the National Printing Skill & Knowledge Standards Project.

A Standards Development Committee composed of workers from the graphic communication field was convened. The framework, initial outline, matrix and draft skill standards were presented to the Standards Development Committee for review, revisions, adjustments and validation in this first meeting. Performance elements were developed using national standards as references. Additional skill standards were developed in accordance with the direction established by the IOSSCC and presented to the Standards Development Committee for review and revision at a second meeting. Graphic Communication educators joined the Standards Development Committee at a third meeting to review consistency in terminology and the assessment criteria. The performance assessment criteria includes a product statement that indicates the outcome or end result of performing the skill and a process statement that identifies the steps of performance that are critical to the outcome and/or a specific sequence that must be followed.

A complete set of skill standards statements was provided to the Subcouncil. At the recommendation of the Subcouncil, copies of the performance skill standards were distributed for further review by selected educators. The Subcouncil also reviewed the materials in depth. Comments submitted by members of the Subcouncil and those requested from outside reviewers have been integrated into the final product. A statement of assumptions accompanies this document to provide context for the standards document.

The Subcouncil recommended that the final skill standards product be presented to the IOSSCC. The Council reviewed the skill standards and met with the product developer, state liaison, chair of the Subcouncil and other business and industry leaders. Based on the review, the IOSSCC voted to endorse the Imaging/Pre-Press Cluster skill standards.

ASSUMPTIONS FOR IMAGING/PRE-PRESS CLUSTER STANDARDS

Skill standards statements assume:

1. Workplace skills (employability skills) are expected of all individuals. Socialization skills needed for work are related to lifelong career experience and are not solely a part of the initial schooling process. These are not included with this set of statements.
2. Specific policies and procedures of the work site will be made known to the individual and will be followed.
3. Time elements outlined for the skill standards result from the experience and consideration of the panel of experts who made up the Standards Development Committee.
4. Skills will progress from simple to complex. Once a skill has been successfully performed, it will be incorporated into more complex skills.
5. Skill standards describe the skill only and do not detail the background knowledge or theory related to the particular skill base. Although the skill standard enumerates steps to successful demonstration, rote approaches to the outcomes are not prescribed.
6. Skill standards include general performance information related to the performance of the skill. Printing companies maintain their own policies and procedures that must be followed.
7. Skill standards do not replace, supersede or substitute for procedure manuals.
8. Facilities are designed to meet safety requirements.
9. Local, state, Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) laws and standards are followed.
10. Personal protective equipment (PPE) is worn at all times in restricted areas.

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PERFORMANCE SKILL LEVELS

	PROJECT COORDINATOR	DESIGNER	ELECTRONIC PREPRESS OPERATOR	TRADITIONAL PREPRESS OPERATOR
CUSTOMER SERVICE				
Provide Customer Service/Custom Education	•			
Manage Project Timeline	•	•	•	•
Coordinate Production	•	•	•	•
JOB ENGINEERING				
Monitor Production Quality	•	•	•	•
Perform File Management			•	
Perform Pre-flight on Files			•	
IMAGE ACQUISITION				
Perform Camera Operations		•		•
Maintain Photographic Equipment and Work Area		•		•
Perform Analog-to-Digital Conversions			•	
Maintain Scanning Equipment			•	
Edit Images		•	•	
ASSEMBLY				
Assemble Digital Page Elements		•	•	
Prepare Files for Imaging			•	
Perform Job Intervention		•	•	
OUTPUT				
Trap Files			•	
Impose Digital Pages or Job Components			•	
Create Proofs		•	•	•
Construct Elements for Page Assembly/Stripping (Conventional)				•
Perform Film Flat/Stripping (Conventional)				•
Operate Output Devices		•	•	
Create Plates (Conventional)				•
Troubleshoot Raster Image Processing (RIP) Devices			•	

PERFORMANCE SKILL LEVELS *(Continued)*

	PROJECT COORDINATOR	DESIGNER	ELECTRONIC PREPRESS OPERATOR	TRADITIONAL PREPRESS OPERATOR
TECHNICAL SERVICES				
Recommend Systems Update	•	•	•	
Maintain Network Systems	•	•	•	
Conduct Technical Training	•		•	
Provide Ongoing Training	•		•	

PROVIDE CUSTOMER SERVICE/CUSTOMER EDUCATION.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Equipment and supplies
Equipment and supply manuals
Qualified personnel
Job specifications
Timeline for job completion
Facility policy and procedures manual

WORK TO BE PERFORMED

Provide customer service/customer education by establishing and maintaining positive relationship with customer through matching of needs and expectations with production process requirements.

PERFORMANCE CRITERIA

The customer is satisfied with the service and product on an ongoing basis.

The product is completed according to the scheduled date.

Time required to complete the skill varies according to the difficulty of the project produced.

PERFORMANCE ELEMENTS

1. Maintain rapport with client.
2. Identify opportunities to provide additional services to client.
3. Clarify job requirements with client and compare with quote/estimate.
4. Create a job ticket/docket.
5. Serve as liaison between client and technical staff.
6. Use client job specifications and job parameters to define appropriate production procedures and processes.
7. Plan services based on equipment capabilities and limitations.
8. Evaluate project and provide feedback to client.
9. Ensure client has reviewed and approved all proofs at appropriate stages in production process.
10. Compile job information and provide documentation (e.g., work orders, quotes, job tickets).

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The final product is completed and delivered with the customer's satisfaction.

PROCESS

All performance elements for providing customer service/customer education are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

MANAGE PROJECT TIMELINE.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

- Equipment and supplies
- Equipment and supply manuals
- Qualified personnel
- Job specifications
- Timeline for job completion
- Budget estimate
- Facility policy and procedures

WORK TO BE PERFORMED

Manage project to ensure it is completed within predetermined timeline and budget.

PERFORMANCE CRITERIA

The customer is satisfied with the service and product provided on an ongoingbasis.

The product is completed according to the scheduled date.

The project is completed in the estimated time for the quantity and quality requested by the customer. Time required to complete the skill is based on company history or guidelines such as the *Franklin Catalog*.

PERFORMANCE ELEMENTS

1. Communicate all aspects of production with customer.
2. Monitor and document client-requested changes.
3. Communicate impact of changes on budget and timeline.
4. Advise client of alternative production techniques.
5. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The product is completed within budget and delivered in a timely manner.

PROCESS

All performance elements for managing the project timeline are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

COORDINATE PRODUCTION.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Equipment and supplies
Equipment and supply manuals
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Coordinate production of customer job.

PERFORMANCE CRITERIA

The internal facility policy and procedures are met while also adhering to the quality requested by the customer.

The production of the project is planned and coordinated in an efficient manner.

Time required to complete the coordination of the project will be determined by company history or guidelines such as the *Franklin Catalog*.

PERFORMANCE ELEMENTS

1. Plan project schedule from approved job specifications.
2. Identify and schedule resources to meet job specifications.
3. Log job into system and assign both internal and external due dates.
4. Communicate and evaluate schedule with technical production staff.
5. Monitor project schedule with technical production staff.
6. Perform cost verification.
7. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The project is planned and coordinated efficiently and within a time frame in accordance with the size of the project.

PROCESS

All performance elements for planning and coordinating production are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Quality control equipment and supplies
Equipment and supply manuals
Customer quality standards
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Monitor production quality of customer product to guarantee satisfaction by both customer and management.

PERFORMANCE CRITERIA

The project meets the quality requested by the customer.

Quality control is monitored according to the difficulty of the project.

Time required to complete the skill is no longer than the time to produce the product as indicated on the job specifications.

PERFORMANCE ELEMENTS

1. Identify acceptable quality for client's work.
2. Establish production quality control points.
3. Determine stages of production where client's approval is required and obtain approval before proceeding.
4. Communicate quality standards and expectations to both technical production staff and client.
5. Run production.
6. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The product is monitored to meet the job specifications.

PROCESS

All performance elements for monitoring production quality are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

PERFORM FILE MANAGEMENT.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer and appropriate software
Archiving hardware/software
Equipment/software manuals
Customer job files
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Perform file management of customer files to meet needs of customer and technical production staff.

PERFORMANCE CRITERIA

The files are archived for future reference and utilization.

The files are stored for future reference/utilization identical to the original.

The files are archived in an appropriate time according to the project size, equipment availability, etc.

(Example: A 100 MB file is archived in less than 10 minutes).

PERFORMANCE ELEMENTS

1. Screen (e.g., check for viruses, font usage, image format, etc.) customer supplied files.
2. Copy appropriate files to disks, servers, etc. to create working files.
3. Archive and document completed files (e.g., completed analog/digital materials) as necessary.
4. Return materials to client, when required.
5. Store all records and archived files in secure place.
6. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The files are archived/stored to meet the needs of the customer and the technician.

PROCESS

All performance elements for performing file management are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

PERFORM PRE-FLIGHT ON FILES.

IL.00.C/IT.I/PPC.6

JOB ENGINEERING

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Customer file ready for pre-flight checks with hard copy
Hardware and software for pre-flight operations
Equipment/software manuals
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Perform pre-flighting on customer files to ensure file integrity.

PERFORMANCE CRITERIA

The file elements (e.g., fonts, graphics, images, etc.) are examined and match the job specifications.

The customers are notified of discrepancies.

PERFORMANCE ELEMENTS

1. Screen (e.g., check for viruses, font usage, image format, etc.) customer supplied files.
2. Review job components.
3. Document incoming and outgoing media/materials.
4. Identify required job components (e.g., fonts, graphics, images), transparencies, hard mechanicals, and film.
5. Obtain job components.
6. Verify compatibility of required job components.
7. Communicate with client if there are problems with files.
8. Restructure and translate files and graphics.
9. Obtain customer approval.
10. Document file errors and resolutions.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The files are checked and all components are approved for production.

PROCESS

All performance elements for performing pre-flight on files are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

PERFORM CAMERA OPERATIONS.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Process or digital camera
Equipment/software manuals
Operation procedures for camera equipment
Processing/storage supplies (e.g. film, chemicals, darkroom equipment, digital media equipment, etc).
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Produce images for reproduction utilizing process or digital photography.

PERFORMANCE CRITERIA

Each image is shot to match the job specifications supplied by the customer.

Each image is completed in a time frame to matching the example.

(Example: Using digital photography methods, an 8-by-10-inch photo is shot and captured in under 3 minutes or under 10 minutes using process photography methods.)

PERFORMANCE ELEMENTS

1. Prepare and set up original for reproduction.
2. Capture images on film or digital media.
3. Process film image.
4. Check captured image to determine if quality standards are met.
5. Evaluate final image to determine whether to forward or reshoot.
6. Forward to stripping or digital prepress.
7. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The image is captured according to job specifications.

PROCESS

All performance elements for performing camera operations are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

MAINTAIN PHOTOGRAPHIC EQUIPMENT AND WORK AREA.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Photographic equipment and supplies
Clean-up and maintenance procedures for photographic equipment
Service/maintenance manuals for photographic equipment
Facility policy and procedures

WORK TO BE PERFORMED

Maintain photographic equipment in excellent operational condition.

PERFORMANCE CRITERIA

Each piece of equipment is maintained according to the manufacturer's specifications.

Each piece of equipment is checked, cleaned, and maintained during the work session.

Equipment maintenance is completed in 30 minutes or less.

PERFORMANCE ELEMENTS

1. Follow manufacturers' instructions to clean and care for cameras and other equipment.
   a. Clean items daily.
   b. Lubricate moving parts and other items as designated in equipment service manuals.
   c. Clean and inspect work area and keep it dust-free to guarantee high quality products.
2. Report immediately to supervisor any broken or malfunctioning equipment.
3. Maintain neat and orderly working environment for photographic equipment.
4. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The equipment is checked and maintained. Equipment needing repaired is reported to the appropriate people.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

PERFORM ANALOG-TO-DIGITAL CONVERSIONS.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Scanning equipment and supplies
Operation procedures for scanning equipment
Operation/service manuals for scanning equipment
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Produce images for reproduction utilizing scanning equipment.

PERFORMANCE CRITERIA

The items are scanned to meet the needs of the customer as specified on the job ticket.

The scan example is completed in not more than 10 minutes.

Example: Using a drum scanner, a 4-by-5-inch transparency is cleaned, mounted, scanned [100% @ 300 dpi], and unmounted.

PERFORMANCE ELEMENTS

1. Evaluate originals to determine appropriate scanner settings.
2. Verify key variables (e.g. percentage of enlargement/ reduction, input resolution) to be adjusted.
3. Crop, adjust, and/or mount images as required.
4. Scan originals.
5. Evaluate resultant images and make necessary adjustments.
6. Use appropriate software to retrieve digital images.
7. Make corrections to scanned images utilizing appropriate software.
8. Save final formats of scanned images to be placed in final document for printing.
9. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The items are scanned according to job specifications..

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

MAINTAIN SCANNING EQUIPMENT.

IL.00.C/IT.I/PPC.10

IMAGE ACQUISITION

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Scanning equipment and supplies
Operation procedures for scanning equipment
Operation/service manuals for scanning equipment
Facility policy and procedures

WORK TO BE PERFORMED

Maintain scanning equipment in excellent operational condition to produce high quality work.

PERFORMANCE CRITERIA

Each piece of equipment is maintained according to the manufacturer's specifications.

Each piece of equipment is checked, cleaned, and maintained to meet the equipment specifications.

The maintenance is completed within 60 minutes.

PERFORMANCE ELEMENTS

1. Follow manufacturers' instructions for cleaning/maintenance of equipment.
2. Establish and maintain process control and calibration. Calibrate equipment at beginning of each work session to ensure high quality output.
3. Establish and maintain detailed records of repair and maintenance of equipment.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The equipment is checked and maintained in working condition.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

- Image editing software
- Editing equipment and supplies
- Operation procedures for editing equipment
- Operation/service manuals
- Job specifications
- Facility policy and procedures

WORK TO BE PERFORMED

Modify images to conform to layout design.

PERFORMANCE CRITERIA

Each image is edited to meet the criteria established in the job specifications.

Each image is edited in 15 minutes.

PERFORMANCE ELEMENTS

1. Check appropriate size and resolution of digital images.
2. Produce digital color separations.
3. Perform digital color correction and color retouching.
4. Convert file formats.
5. Originate and manipulate images to meet client specifications.
6. Produce/obtain digital or analog proof.
7. Store final images for output.
8. Document all relevant information about edited images on job ticket.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The images re edited for placement in the final document.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

ASSEMBLE DIGITAL PAGE ELEMTNETS.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation procedures for assembly hardware/software
Operation/service manuals
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Assemble digital page elements according to job specifications.

PERFORMANCE CRITERIA

The page elements are assembled to create the file according to the job specifications.

The page elements are assembled according to the complexity of the file.

(Example: An 8½-11-inch page with 2 photos and 2 columns of text is assembled in 30 minutes.)

PERFORMANCE ELEMENTS

1. Identify all instructions, related materials and elements to be incorporated into the file.
2. Collect elements.
3. Identify formats.
4. Use appropriate peripheral software (e.g., font managing, translation, compression).
5. Maintain backup files of all electronic and proof documents.
6. Import data into page layout and/or graphics software.
   a. Format and place copy on each page of document.
   b. Place photographs, illustrations, and other graphic images on pages of document.
7. Assemble all relevant data utilized in final file into a specific location for final output.
8. Check each item for accuracy to ensure quality.
9. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The digital page elements are assembled to match the job specifications.

PROCESS

All performance elements for assembling digital page elements are critical. The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

PREPARE FILES FOR IMAGING.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation procedures for imaging hardware/software
Operation/service manuals
Customer pre-flighted file
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Prepare files for imaging according to job specifications.

PERFORMANCE CRITERIA

Each file is matched to the job specifications and prepared for imaging.

(Example: An 8½-by-11-inch page with 2 photos and 2 columns of text is prepared for imaging in 15 minutes.)

PERFORMANCE ELEMENTS

1. Add crop marks and set up overlaying methods.
2. Review file and edit colors according to production requirements (e.g., touch plate, varnish, fifth and sixth color).
3. Perform further file intervention/correction.
4. Provide all final electronic files and required components for output.
5. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The files are prepared for imaging according to the job specifications.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation procedures for hardware/software
Operation/service manuals
Customer pre-flighted file
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Troubleshoot document to meet job specifications.

PERFORMANCE CRITERIA

The final files match the job specifications.

Time required for job a intervention varies depending on the type of intervention and the availability of the customer to respond.

PERFORMANCE ELEMENTS

1. Identify discrepancies in text, graphics and images.
2. Check for correct fonts, image formats, locations of graphics, etc.
3. Estimate time/cost to resolve discrepancies.
4. Ensure correct parts of all files are properly located and identified for final output; communicate importance of this step to customer and service personnel.
5. Resolve discrepancies.
6. Document actions taken.
7. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

A job intervention is performed to meet the job specifications. The customer is alerted to the time/cost factors.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation/service manuals
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Trap files to meet job specifications.

PERFORMANCE CRITERIA

The files are trapped to meet the job specifications.

The files are trapped and verified in a reasonable length of time (e.g., approximately 10 minutes per page).

PERFORMANCE ELEMENTS

1. Review trapping requirements with printer prior to film output.
2. Determine appropriate elements for trapping.
3. Determine trap settings.
4. Trap digital files using appropriate software application(s).
5. Verify completed trapped files.
6. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The files are trapped according to the job specifications.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

IMPOSE DIGITAL PAGES OR JOB COMPONENTS.

IL.00.C/IT.I/PPC.16

OUTPUT

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation/service manuals
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Impose digital pages or job components to meet job specifications.

PERFORMANCE CRITERIA

Each file is imposed to meet the job specifications.

Each file imposition is completed in a time frame based on the facility job standards (e.g., plants with the latest software/hardware will be able to perform an imposition in a very short time frame as compared to plants with older software/hardware).

PERFORMANCE ELEMENTS

1. Review layout and job requirements including special circumstances (e.g., shingling, bottling, binding method, crossovers, etc.).
2. Select appropriate imposition technique.
3. Prepare pages or components for final imaging size.
4. Impose digital files according to layout and job requirements using appropriate software application(s).
5. Add quality control guides to imposed pages.
6. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The files are imposed according to the job specifications.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

CREATE PROOFS.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

- Computer hardware/software
- Operation/service manuals
- Facility job standards
- Job specifications
- Specifications for Web Offset Publications (SWOP)
- Facility policy and procedures

WORK TO BE PERFORMED

Create digital or analog proofs to meet job specifications.

PERFORMANCE CRITERIA

Each file is proofed to match the job specifications.

Each file is proofed in a time frame based on the facility job standards.

(Example: An 8½-by-11-inch page with 2 photos and 2 columns of text are proofed for imaging in 5 minutes.)

PERFORMANCE ELEMENTS

1. Produce digital and/or analog proofs to show both content and color.
2. Check proof for adherence to client specifications, company quality standards, and industry standards (e.g., SWOP).
3. Obtain documentation of customer's approval of final proof prior to running the job.
4. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

A proof of the file is completed and approved by the customer.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

CONSTRUCT ELEMENTS FOR PAGE ASSEMBLY/STRIPPING (CONVENTIONAL).

IL.00.C/IT.I/PPC.18

OUTPUT

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

- Stripping equipment
- Stripping supplies
- Equipment and supply manuals
- Procedures/specifications for stripping flats for production
- Job specifications
- Facility policy and procedures

WORK TO BE PERFORMED

Construct elements for page assembly/stripping according to job specifications.

PERFORMANCE CRITERIA

Each element is constructed to meet the job specifications.

Each element is constructed in a time frame based on the facility job standards.

(Example: Elements for an 8½-by-11-inch page with 2 photos and 2 columns of text are prepared for paste up in 45 minutes.)

PERFORMANCE ELEMENTS

1. Review all layout instructions, related material and other elements to be incorporated into final product.
2. Create spreads and chokes.
3. Create reverses, lines and tone combinations, and mechanical color breaks.
4. Prepare workup for contacting.
5. Produce composite films.
6. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The elements are constructed for page assembly/stripping to meet the job specifications.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

PERFORM FILM FLAT/STRIPPING (CONVENTIONAL).

OUTPUT

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

- Stripping equipment
- Stripping supplies
- Equipment and supply manuals
- Procedures and specifications for stripping flats for production
- Customer materials
- Job specifications
- Facility policy and procedures

WORK TO BE PERFORMED

Strip film elements according to job specifications.

PERFORMANCE CRITERIA

Each flat is stripped to meet the job specifications.

Each flat is stripped in a time frame based on the facility job standards.

(Example: Negatives of an 8½-by-11-inch page with 2 photos and 2 columns of text are stripped for imaging in 10 minutes.)

PERFORMANCE ELEMENTS

1. Review all layout instructions, related material and other elements to be incorporated into final product.
2. Gather analog elements and prepare film for plates.
3. Combine and register film and images onto a flat.
4. Check final stripped flat against proof to ensure printed job meets specifications on customer job ticket.
5. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The flat is stripped to the customer's job specifications.

PROCESS

All performance elements for performing film flat/stripping are critical and must be performed in sequence.

OPERATE OUTPUT DEVICES.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation/service manuals
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Operate output devices according to manufacturers' specifications to meet job specifications.

PERFORMANCE CRITERIA

Each file is output to match the specifications on the customer job ticket.

Each file is output in a time frame based on the facility equipment.

(Example: An 81/2-by-11-inch page with 2 photos and 2 columns of text is imaged in 10 minutes.)

PERFORMANCE ELEMENTS

1. Use standard quality control devices to adjust variables on imagesetters, proofers, laser printers and platesetters.
2. Follow manufacturers' operating procedures.
3. Download fonts and files.
4. Set up and monitor appropriate output device(s).
5. Process output materials according to production specifications.
6. Inspect output.
7. Calibrate equipment
8. Replenish appropriate consumables as needed.
9. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The files are output according to the job specifications.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

- Platemaker equipment and supplies
- Operation procedures for platemaker equipment
- Operation/service manuals
- Job specifications
- Facility policy and procedures

WORK TO BE PERFORMED

Create plates according to job specifications.

PERFORMANCE CRITERIA

Each plate is created to meet the specifications on the customer job ticket.

Each plate is created in a time frame not to exceed 20 minutes per plate.

PERFORMANCE ELEMENTS

1. Review all instructions, related material, and other elements to be incorporated into plate.
2. Review production specifications for plate selection.
3. Calibrate platemaking devices.
4. Inspect plates for quality adhering to company standards.
5. Operate platemaking devices.
   a. Align flat with plate.
   b. Expose plate.
   c. Process plate.
6. Follow correct procedure for handling plates.
7. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The plates are created according to the job specifications.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

TROUBLESHOOT RASTER IMAGE PROCESSING (RIP) DEVICES.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation/service manuals
Job specifications
Facility policy and procedures

WORK TO BE PERFORMED

Resolve output problems to meet specifications provided.

PERFORMANCE CRITERIA

Each file is output to match the specifications on the customer job ticket.

Time required to complete the skill will vary according to the type of equipment used and the files being diagnosed.

PERFORMANCE ELEMENTS

1. Diagnose and correct postscript errors.
2. Diagnose and correct network errors.
3. Diagnose and address system and software errors.
4. Diagnose and address file errors.
5. Diagnose RIP messages.
6. Complete appropriate job tracking documentation.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

All troubleshooting is complete and the output files meet the job specifications.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

RECOMMEND SYSTEMS UPDATE.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation procedures for hardware/software
Operation/service manuals

WORK TO BE PERFORMED

Recommend appropriate system network strategies to improve work flow and maximize existing equipment.

PERFORMANCE CRITERIA

Software, hardware and workflow engineering are recommended to maximize production efficiency.

PERFORMANCE ELEMENTS

1. Evaluate new equipment.
2. Design systems update to improve workflow requirements.
3. Identify future needs.
4. Plan for new technologies.
5. Recommend new equipment.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The systems and applications are continuously evaluated. Recommendations are suggested to improve the cost effectiveness, efficiency, and the quality required to meet facility needs.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

MAINTAIN NETWORK SYSTEMS.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation procedures for hardware/software
Operation/service manuals

WORK TO BE PERFORMED

Maintain network systems to maximize work flow.

PERFORMANCE CRITERIA

Each system is maintained according to the work flow..

PERFORMANCE ELEMENTS

1. Provide hardware support according to service manual.
2. Provide software support according to operation manual.
3. Purge system.
4. Manage and index files.
5. Repair and/or replace system components.
6. Maintain operating system.
7. Update systems and applications software.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

The network systems are maintained.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Computer hardware/software
Operation/service manuals

WORK TO BE PERFORMED

Conduct technical training to improve efficiency.

PERFORMANCE CRITERIA

Each employee/trainee is trained to efficiently utilize the imaging/pre-press equipment.

Each employee/trainee is provided with training at the approximate rate of 2 hours per week.

PERFORMANCE ELEMENTS

1. Provide ongoing training.
2. Plan training sessions for new employees.
3. Provide appropriate training for client.
4. Evaluate training program and recommend enhancements.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

Technical training is implemented to improve efficiency.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

PROVIDE ONGOING TRAINING.

SKILL STANDARD

CONDITIONS OF PERFORMANCE

Given the following:

Equipment and supplies
Operation/service manuals
Knowledge of equipment/software set-up and operation.

WORK TO BE PERFORMED

Provide ongoing training for employees/trainees.

PERFORMANCE CRITERIA

Training is provided to the employees/trainees to enhance their skills.

Training materials are delivered with 100% accuracy.

PERFORMANCE ELEMENTS

1. Train employees/trainees to
   a. Diagnose and resolve PostScript errors,
   b. Diagnose and resolve network errors,
   c. Diagnose and resolve system and software errors,
   d. Diagnose and resolve file errors,
   e. Diagnose and resolve RIP messages,
   f. Communicate with appropriate individuals,
   g. Complete appropriate documentation.
2. Provide other appropriate training as needed.
3. Evaluate training and make recommendations.

PERFORMANCE ASSESSMENT CRITERIA

PRODUCT

Ongoing training is provided to the employees/trainees to improve efficiency.

PROCESS

The performance elements are numbered to show an appropriate sequence for completing the skill; however, a different sequence may be used.

APPENDIX A — GLOSSARY OF TERMS

Academic Skills	Skills (and related knowledge) contained in the subject areas and disciplines addressed in most national and state educational standards, including English, mathematics, science, etc.
Assessment	A process of measuring performance against a set of standards through examinations, practical tests, performance observations and/or the completion of work portfolios.
Content Standard	A specification of what someone should know or be able to do to successfully perform a work activity or demonstrate a skill.
Critical Work Functions	Distinct and economically meaningful sets of work activities critical to a work process or business unit which are performed to achieve a given work objective with work outputs that have definable performance criteria. A critical work function has three major components: • **Conditions of Performance:** The information, tools, equipment and other resources provided to a person for a work performance. • **Work to Be Performed:** A description of the work to be performed. • **Performance Criteria:** The criteria used to determine the required level of performance. These criteria could include product characteristics (e.g., accuracy levels, appearance), process or procedure requirements (e.g., safety, standard professional procedures) and time and resource requirements. The IOSSCC requires that these performance criteria be further specified by more detailed individual performance elements and assessment criteria.
Credentialing	The provision of a certificate or award to an individual indicating the attainment of a designated set of knowledge and skills and/or the demonstration of a set of critical work functions for an industry/occupational area.
Illinois Occupational Skill Standards and Credentialing Council (IOSSCC)	Legislated body representing business and industry which establishes skill standards criteria, endorses final products approved by the industry subcouncil and standards development committee and assists in marketing and dissemination of occupational skill standards.
Industry	Type of economic activity, or product or service produced or provided in a physical location (employer establishment). They are usually defined in terms of the Standard Industrial Classification (SIC) system.

Industry Subcouncil	Representatives from business/industry and education responsible for identifying and prioritizing occupations for which occupational performance skill standards are adapted, adopted or developed. They establish standards development committees and submit developed skill standards to the IOSSCC for endorsement. They design marketing plans and promote endorsed skill standards across the industry.
Knowledge	Understanding the facts, principles, processes, methods and techniques related to a particular subject area, occupation or industry.
Occupation	A group or cluster of jobs, sharing a common set of work functions and tasks, work products/services and/or worker characteristics. Occupations are generally defined in terms of a national classification system including the Standard Occupational Classification (SOC), Occupational Employment Statistics (OES) and the Dictionary of Occupational Titles (DOT).
Occupational Cluster	Grouping of occupations from one or more industries that share common skill requirements.
Occupational Skill Standards	Specifications of content and performance standards for critical work functions or activities and the underlying academic, workplace and occupational knowledge and skills needed for an occupation or an industry/occupational area.
Occupational Skills	Technical skills (and related knowledge) required to perform the work functions and activities within an occupation.
Performance Standard	A specification of the criteria used to judge the successful performance of a work activity or the demonstration of a skill.
Product Developer	Individual contracted to work with the standard development committee, state liaison, industry subcouncil and IOSSCC for the adaptation, adoption or development of skill standards content.
Reliability	The degree of precision or error in an assessment system so repeated measurements yield consistent results.
Skill	A combination of perceptual, motor, manual, intellectual and social abilities used to perform a work activity.
Skill Standard	Statement that specifies the knowledge and competencies required to perform successfully in the workplace.

Standards Development Committee	Incumbent workers, supervisors and human resource persons within the industry who perform the skills for which standards are being developed. Secondary and postsecondary educators are also represented on the committee. They identify and verify occupational skill standards and assessment mechanisms and recommend products to the industry subcouncil for approval.
State Liaison	Individual responsible for communicating information among all parties (e.g., IOSSCC, subcouncil, standard development committee, product developer, project director, etc.) in skill standard development.
Third-Party Assessment	An assessment system in which an industry-designated organization (other than the training provider) administers and controls the assessment process to ensure objectivity and consistency. The training provider could be directly involved in the assessment process under the direction and control of a third-party organization.
Validity	The degree of correspondence between performance in the assessment system and job performance.
Workplace Skills	The generic skills essential to seeking, obtaining, keeping and advancing in any job. These skills are related to the performance of critical work functions across a wide variety of industries and occupations including problem solving, leadership, teamwork, etc.

Margaret Blackshere	AFL-CIO
Judith Hale	Hale Associates
Michael O'Neill	Chicago Building Trades Council
Janet Payne	United Samaritans Medical Center
Gene Rupnik	Hospitality Industry
Jim Schultz	Illinois Retail Merchants Association Walgreen Company
Larry Vaughn	Illinois Chamber of Commerce

APPENDIX C

COMMUNICATIONS/INFORMATION TECHNOLOGY SUBCOUNCIL

Regina Dodero	Committee Co-Chair Training and Methods Manager Madden Communications, Inc.
Max Dillahunty	Vice President, Consulting Services Levi, Ray & Shoup, Inc.
Doug Dougherty	Committee Co-Chair President Illinois Telephone Association
Mike Gilley	Executive Consultant Hewlett-Packard
Ron Hawks	Director, Chicago Graphic Arts Institute Graphics Communication International Union (GCIU)
John Highhouse	Program Director Lincoln Trail College, South Campus
Greg Holcomb	Director of Human Services Karmak, Inc.
Jeff King	Education Representative Microsoft, Inc.
Lawrence Kwolek	Director of Membership Development AEA
Dennis Lyle	President/CEO Illinois Broadcasters Association
Karon C. McGrath	Operations Manager, SACWIS Project GetronicsWang
John Maxon	Vice President and Chief Operations Officer Speedcolor, Inc.
Larry Miller	Director of Switch Engineering Illinois Consolidated Communications
Daniel A. Reed	Head of Department of Computer Science University of Illinois at Urbana-Champaign
Candace Renwall	Executive Director Chicago Software Association

Tom Riebok	Director of Human Resources Fox Valley Press Incorporated
Ron Engstrom	State Liaison Illinois State Board of Education

APPENDIX D

IMAGING PRE-PRESS CLUSTER SKILL STANDARDS DEVELOPMENT COMMITTEE

Gary Brown	Systems Manager Rider Dickerson
Ed Dressler	Pre-Press Foreman Argus Press
Karen Evans	Electronic Pre-Press Supervisor Rider Dickerson
Bill Flowers	Technical Manager Quebecor World
Tom Galt	Pre-Press Manager Quebecor World
Bill Karpus	Preliminary Supervisor R.R. Donnelley
Kelly Pierce	Quad Graphics
Bob Tellone	Sales Support Manager Quebecor World
Fred Tochterman	Lehigh Press, Inc.
Dennis Carson	Product Developer Western Illinois University
Ron Engstrom	State Liaison Illinois State Board of Education

APPENDIX E

COMMUNICATIONS/INFORMATION TECHNOLOGY SUBCOUNCIL IMAGING PRE-PRESS CLUSTER SKILL STANDARDS RECOGNITION PROPOSAL

I. Occupational Definition and Justification

A. Occupational Definition

Imaging/Pre-Press workers perform a variety of tasks that transform text and graphics into printable material.

Project Coordinator performs in the following areas: Sales - maintain contact with customers. Estimating - estimate the cost of production. Customer Service/Production Management - ensure the organization provides satisfactory products and services, coordinate production with all internal departments, procure services and materials and schedule jobs. Network/Systems Management - keep customers informed about their jobs and bill jobs.

Designer includes Graphic Designer and Photographer. Designers determine the design strategy through direct customer contact or through specifications submitted by sales personnel. They conceptualize designs, coordinate illustrations, photographers and other design services. Individuals working in design also plan the layout of the final product. Photographers create and/or capture images for use in the final product.

Electronic Pre-Press Operator includes Desktop Operator, Proofreader, Scanner Operator and Output Specialist. They perform the following operations when preparing artwork for production through computer generated methods: produce page templates; typeset; proofread; rework customer supplied text; produce single or multicolor page compositions; produce illustrations; trap files; calculate scaling of images; import images; output laser images; evaluate customer supplied files; edit customer files; prepare files to be output elsewhere; retrieve files; archive files; scan; image corrections; photocomps; imposition jobs; image film digitally; produce direct digital color proofs; and image plates digitally.

Traditional Pre-Press Operator includes Camera Operator, Film Stripper, Proofmaker and Platemaker. They perform the following operations when preparing artwork for production through mechanical methods: produce art boards through paste-up methods; butt artwork multi-up; produce line negatives; produce halftone negatives; strip film; produce analog film proofs and burn plates from film.

B. Employment and Earnings Opportunities

1. Education and Training Requirements

The occupations in this occupational cluster require "basic workplace skills and technical training," some of which may be acquired through apprenticeship or on-the-job training.

2. Employment Opportunities

Both in the nation and in Illinois, the demand for pre-press technologists is expected to grow much faster than the average for all occupations. With the advancement of the personal computer, the printing industry is rapidly changing and pre-press technologists are replacing other positions in the printing trades. There is an increasing demand for qualified employees in the state and nation each year. Many job openings will also result from the need to replace operators who retire or leave the occupation.

3. **Earnings Opportunities**

	Middle Range Annual Earnings, 1998*
Project Coordinator	$17,950 - $23,630
Designer	$21,237 - $32,386
Electronic Pre-Press Operator	$24,350 - $39,725
Traditional Pre-Press Operator	$24,065 - $40,935

** Middle range is the middle 50%, i.e., one-fourth of persons in the occupation earn below the bottom of the range and one-fourth of persons in the occupation earn above the top of the range.*

Sources: 1999 Occupational Employment Statistics: Wage Data and Occupational Projections 2006, Illinois Department of Employment Security, Economic Information and Analysis Division; Horizons Career Information System; Encyclopedia of Careers & Vocational Guidance-10th Edition.

II. Occupational Standards and Credentials

A. Occupational Standards

The printing standards were developed for three major occupational clusters:

Imaging Technologist is an individual who provides services and support to the printing industry by working with customers, preparing files for imaging and seeing to it that those files and materials are correct before being forwarded to the press technologist.

Press Technologist is an individual who provides services and support to the printing industry by receiving the prepared materials from the imaging technologist and printing the specified images on to the correct substrate, as requested by the customer.

Finishing/Distribution Technologist is an individual who provides services and support to the printing industry by taking the printed material from the press technologist and finishing/distributing the product as specified by the customer.

Occupational Skill Standards for Imaging/Pre-Press operators are included in this book. The Finishing/Distribution and Press skill standards are available in two additional books.

The national printing standards were adapted to conform to the Illinois Occupational Skill Standards Credentialing Council (IOSSCC) requirements. The performance standards for these occupational areas contain all the elements required for IOSSCC standards. Future standards revisions or development will also be aligned with the national standards.

B. Assessment and Credentialing System

The National Printing Skill and Knowledge Standards Project was built upon the need for a volunteer assessment and credentialing system. Valid certification must include both written (knowledge) and practical (performance based) evaluation. National agencies such as Graphic Arts Technical Foundation (GATF) have developed certification programs for press operators.

The Communications/Information Technology Subcouncil recommends that all individuals acquire recognized assessments and credentials when appropriate.

III. Industry Support and Commitment

A. Industry Commitment for Development and Updating

1. The Communication/Information Technology Subcouncil and the Standards Development Committee developed these performance skill standards. The development effort utilized the following steps:
   a. Identification of performance skills
   b. Review of resources
   c. Development of draft performance skills
   d. Convening of Standards Development Committee
   e. Validation and approval of performance skills by Standards Development Committee
   f. Review of skill standards by Standards Development Committee
   g. Review and approval of skill standards by subcouncil and practitioners
   h. Endorsement of skill standards by the IOSSCC.

2. A list of Subcouncil and Standards Development Committee members may be seen in Appendixes C and D, respectively.

B. Industry Commitment for Marketing

The Communications/Information Technology Subcouncil is committed to marketing and obtaining support and endorsements from the leading industry associations impacted by the skill standards. Upon recognition/endorsement of the skill standards by the IOSSCC, the Subcouncil strongly recommends developing and providing an inservice/seminar package for members of the Communications/Information Technology Subcouncil to provide awareness and obtain full industry commitment to the development of a full industry marketing plan.

The Subcouncil encourages the availability of occupational skill standards to the public including students, parents, workers, educators at all levels, employers and industry organizations.

A. Developing an Employment Plan	1. Match interests to employment area. 2. Match aptitudes to employment area. 3. Identify short-term work goals. 4. Match attitudes to job area. 5. Match personality type to job area. 6. Match physical capabilities to job area. 7. Identify career information from counseling sources. 8. Demonstrate a drug-free status.
B. Seeking and Applying for Employment Opportunities	1. Locate employment opportunities. 2. Identify job requirements. 3. Locate resources for finding employment. 4. Prepare a resume. 5. Prepare for job interview. 6. Identify conditions for employment. 7. Evaluate job opportunities. 8. Identify steps in applying for a job. 9. Write job application letter. 10. Write interview follow-up letter. 11. Complete job application form. 12. Identify attire for job interview.
C. Accepting Employment	1. Apply for social security number. 2. Complete state and federal tax forms. 3. Accept or reject employment offer. 4. Complete employee's Withholding Allowance Certificate Form W-4.
D. Communicating on the Job	1. Communicate orally with others. 2. Use telephone etiquette. 3. Interpret the use of body language. 4. Prepare written communication. 5. Follow written directions. 6. Ask questions about tasks.
E. Interpreting the Economics of Work	1. Identify the role of business in the economic system. 2. Describe responsibilities of employee. 3. Describe responsibilities of employer or management. 4. Investigate opportunities and options for business ownership. 5. Assess entrepreneurship skills.
F. Maintaining Professionalism	1. Participate in employment orientation. 2. Assess business image, products and/or services. 3. Identify positive behavior. 4. Identify company dress and appearance standards. 5. Participate in meetings in a positive and constructive manner. 6. Identify work-related terminology. 7. Identify how to treat people with respect.

G. Adapting to and Coping with Change	1. Identify elements of job transition. 2. Formulate a transition plan. 3. Identify implementation procedures for a transition plan. 4. Evaluate the transition plan. 5. Exhibit ability to handle stress. 6. Recognize need to change or quit a job. 7. Write a letter of resignation.
H. Solving Problems and Critical Thinking	1. Identify the problem. 2. Clarify purposes and goals. 3. Identify solutions to a problem and their impact. 4. Employ reasoning skills. 5. Evaluate options. 6. Set priorities. 7. Select and implement a solution to a problem. 8. Evaluate results of implemented option. 9. Organize workloads. 10. Assess employer and employee responsibility in solving a problem.
I. Maintaining a Safe and Healthy Work Environment	1. Identify safety and health rules/procedures. 2. Demonstrate the knowledge of equipment in the workplace. 3. Identify conservation and environmental practices and policies. 4. Act during emergencies. 5. Maintain work area. 6. Identify hazardous substances in the workplace.
J. Demonstrating Work Ethics and Behavior	1. Identify established rules, regulations and policies. 2. Practice cost effectiveness. 3. Practice time management. 4. Assume responsibility for decisions and actions. 5. Exhibit pride. 6. Display initiative. 7. Display assertiveness. 8. Demonstrate a willingness to learn. 9. Identify the value of maintaining regular attendance. 10. Apply ethical reasoning.
K. Demonstrating Technological Literacy	1. Demonstrate basic keyboarding skills. 2. Demonstrate basic knowledge of computing. 3. Recognize impact of technological changes on tasks and people.
L. Maintaining Interpersonal Relationships	1. Value individual diversity. 2. Respond to praise or criticism. 3. Provide constructive praise or criticism. 4. Channel and control emotional reactions. 5. Resolve conflicts. 6. Display a positive attitude. 7. Identify and react to sexual intimidation/harassment.
M. Demonstrating Teamwork	1. Identify style of leadership used in teamwork. 2. Match team member skills and group activity. 3. Work with team members. 4. Complete a team task. 5. Evaluate outcomes.

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